

CLAIMS

- 5 1. A scroll wall arrangement for a scroll compressor, the arrangement comprising a fixed scroll wall and an orbiting scroll wall, which together define a plurality of flow paths having respective inlets for simultaneous pumping at different pressures, wherein the plurality of flow paths comprise a first flow path extending from a first inlet to an outlet and a second flow path extending from a second inlet to the outlet, and wherein the second inlet is isolated from the first flow path.
- 10 2. An arrangement according to Claim 1, wherein the second inlet is isolated from the first flow path by a portion of the second flow path.
- 15 3. An arrangement according to Claim 1 or Claim 2, wherein the second inlet is isolated from the first flow path by at least one wrap of the arrangement.
- 20 4. An arrangement as claimed in any preceding claim, wherein the pressure at the second inlet during pumping is either higher or lower than the pressure at the first inlet.
- 25 5. A scroll compressor comprising a scroll wall arrangement according to any preceding claim.
6. A scroll compressor comprising first and second scroll wall arrangements each according to any of Claims 1 to 4.

7. A scroll compressor according to Claim 6, wherein the fixed scroll walls of the scroll wall arrangements are formed as part of a fixed scroll common to both arrangements.

5 8. A differentially pumped system comprising: at least two chambers having an or respective interconnections therebetween; a turbomolecular pump having an inlet connected to one of the chambers for pumping at relatively low pressures; and a scroll compressor according to any of Claims 5 to 7, wherein one inlet of
10 the scroll compressor is connected to another of the chambers for pumping at relatively high pressures and another inlet of the scroll compressor is connected to the exhaust of the turbomolecular pump for backing the same.

15 9. A system according to Claim 8, wherein the second inlet of the scroll compressor is connected to said another of said chambers for pumping at relatively high pressures and the first inlet of the scroll compressor is connected to the exhaust of the turbomolecular pump for backing the same.

20 10. A system according to Claim 8, wherein the first inlet of the scroll compressor is connected to said another of said chambers for pumping at relatively high pressures and the second inlet of the scroll compressor is connected to the exhaust of the turbomolecular pump
25 for backing the same.

11. A system according to any of Claims 8 to 10, wherein the turbomolecular pump is a split flow pump and an inter-stage inlet of the turbomolecular pump is connected to a said chamber for
30 pumping the same.

12. A system according to any of Claims 8 to 11, wherein the first inlet of said scroll compressor is connected to a said chamber and the exhaust of the turbomolecular pump.